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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,620	10/16/2001	Richard L. Coulson	5038-118	6345

8791 7590 06/27/2003

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EXAMINER
VERBRUGGE, KEVIN

ART UNIT	PAPER NUMBER
2188	

DATE MAILED: 06/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/981,620	COULSON, RICHARD L.	
	Examiner	Art Unit	
	Kevin Verbrugge	2188	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 November 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-51* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 October 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2,9* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Refund Request

In the refund request mailed 2/12/02, Applicants' representatives requested a refund of $420 to Deposit Account 13-1703 and a refund of $452 to their credit card. According to the computer records available to the Examiner (see attached printout of the fee history in the case), a refund of $420 to the deposit account was processed on 11/29/01. Additionally, it appears that a refund of $390 was also made that day, perhaps to the credit card in question (OP indicates Other Payment which might include credit card credits). The second refund was $390 apparently because it was a refund of the $390 charged on 10/22/01.

It is not clear to the Examiner why the charges shown on the credit card statement do not match the charges shown on the computer fee records for the case.

There appear to be several discrepancies between the deposit account statement, credit card statement, and the computer fee record:

1. The $380 fee on the fee record appears erroneous since its accounting date precedes the filing date of this case. This is a 2-month extension of time fee. Perhaps it was entered into this case's records by mistake. The clerk who entered the fee probably typed this case number by mistake. In any case, according to the deposit account and credit card records submitted, it does not appear that this fee was actually charged to the Applicants' representatives.

2. There is no $420 fee charged to a credit card on the fee record, only the $420 charged to the deposit account.

3. The five separate $40 charges at the end of the credit card statement do not appear on the fee record.

4. The $390 charged to the credit card on 11/29/01 is part of the excess claims fee of $558. This is not shown on the credit card statement presumably because it was charged after the statement end date.

5. The $168 charged to the deposit account on 11/29/01 is the balance of the excess claims fee ($558 - $390 = $168). This is not shown on the deposit account statement presumably because it was charged after the statement end date.

If Applicants' representatives desire further reconciliation of the amounts in question, please submit updated documentation and an updated explanation of what happened to the best of your knowledge. The Examiner will attempt to have any additional refunds processed within the group by the Legal Instruments Examiner (making it unnecessary to request a further refund from the Office of Finance, Refunds section.)

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Numbering

Original claims 10-22, 30-34, 40, 41, 50-61, 70-75, and 80-85 have been replaced by amended claims 8-51 of the preliminary amendment filed 11/15/02. Claims 1-51 are therefore pending.

35 U.S.C. 112, Sixth Paragraph

Regarding claim 40, it is not clear whether Applicants are attempting to now invoke 35 U.S.C. 112, sixth paragraph. If so, Applicants must:

1. Show why the claim language properly invokes 35 U.S.C. 112, sixth paragraph,

2. Identify the function,

3. Identify the corresponding structure, and

4. Amend the written description to explicitly identify the corresponding structure for performing the function recited in the claim, provided no new matter is introduced.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3, 4, 6-11, 14-23, 25-31, 33-37, and 39-51 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0 702 305 A1 to Kitagawa.

Regarding claims 1, 8, 9, 10, 11, 14-23, 25-31, 33-37, and 40-51, Kitagawa shows the claimed hard disk as disk memory drive 12 in Fig. 1. He shows the claimed cache memory as non-volatile memory 16. He shows the claimed memory controller as main processor 15 and disk memory drive control circuit 13. He shows the claimed queue as buffer memory 14.

Regarding claim 3, Kitagawa's memory controller processes digital signals and is therefore a digital signal processor. If Applicants dispute this interpretation of DSP, then specific reference must be made to the specification to show why this interpretation of DSP is inappropriate.

Regarding claim 4, Kitagawa's memory controller is an integrated circuit with a specific application (controlling memory) and is therefore an ASIC. If Applicants dispute this interpretation of ASIC, then specific reference must be made to the specification to show why this interpretation of ASIC is inappropriate.

Regarding claim 6, Kitagawa's memory controller resides with the cache in the disk memory apparatus 1.

Regarding claim 7, Kitagawa's memory controller is separate from the cache and the hard disk as shown in Fig. 1.

Regarding claim 39, Kitagawa specifically mentions a volatile memory with a battery backup at column 4, lines 32-34.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 2 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 702 305 A1 to Kitagawa in view of US 2003/0061436 A1 to Royer, Jr. et al.

Kitagawa does not teach that his non-volatile memory is a polymer ferroelectric memory, however it would have been obvious to one of ordinary skill in the art at the time the invention was made to make it so for the attendant advantages of polymer ferroelectric memory. Royer discloses a polymer ferroelectric memory and teaches that it is particularly well-suited for non-volatile memory uses (see paragraph 15).

Claims 5, 12, 13, 24, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP 0 702 305 A1 to Kitagawa.

Kitagawa does not show the claimed elements. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Kitagawa's device in line with the claimed elements for purposes of enhanced circuit operation.

Conclusion

The method claims are grouped and rejected with the apparatus claims because the steps of the method are met by the disclosure of the apparatus and methods of the reference(s) as discussed above.

Any inquiry concerning this or an earlier communication from the Examiner should be directed to Primary Examiner Kevin Verbrugge by phone at (703) 308-6663.

Any response to this action should be mailed to Commissioner for Patents, Washington, D.C. 20231 or faxed to

(703) 746-7238 After-final

(703) 746-7239 Official

(703) 746-7240 Non-Official/Draft

and labeled appropriately (After-final, Official, Non-Official/Draft). Hand-delivered responses should be brought to Crystal Park 2, 2121 Crystal Drive, Arlington, VA, 4th Floor (Receptionist).

Kevin Verbrugge
Primary Examiner
6/25/03